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09/838,683	04/19/2001	Karl A. Belser	SEA5138.00US/1546US	8990

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EXAMINER	
COLON, ROCIO	
ART UNIT	**PAPER NUMBER**
2651	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/838,683	NOLAN, DARLA K.	
	Examiner	Art Unit	
	Rocio Colon	2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 April 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

The drawings are objected to because a descriptive label should be provided to each block, in Fig. 1 the element 104, should be labeled as "storage system controller". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 14-20 and 26-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Kikitsu et al. (USPN 6,602,620).

Regarding claim 1, Kikitsu et al. disclose a method for creating recordable regions and non-recordable regions in a recording layer, the method comprising the steps of: placing a mask over the recording layer, wherein the mask includes a pattern that defines the recordable regions and the non-recordable regions to be created in the recording layer (column 33, lines 18-19); changing the magnetic properties of portions of the recording layer in order to create recordable regions or non-recordable regions in the recording layer (column 33, lines 26-27 and 37-39); and removing the mask (column 33, line 40-42).

Regarding claim 2, Kikitsu et al. disclose the recording layer is comprised of a single, dual, or multi-layer recording layer (column 21, lines 32-33).

Regarding claim 3, Kikitsu et al. disclose the step of placing a mask over the recording layer comprises the sub-steps of forming a mask over the recording layer (column 21, lines 23-24); and defining a pattern in the mask, wherein the pattern defines the recordable regions and the non-recordable regions to be created in at least one layer in the recording layer (column 21, lines 29-30, the magnetic regions are the recordable regions and the filled with the non-magnetic material are the non-recordable regions).

Apparatus claims 14-16 are drawn to the apparatus corresponding to the method of using same as claimed in claims 1-3. Therefore apparatus claims 14-16 correspond to method claims 1-3, and are rejected for the same reasons of anticipation as used above.

Regarding claim 17, Kikitsu et al. disclose all the limitations of claim 16 upon which claim 17 depends, wherein the means for defining a pattern in the mask exposes portions of the recording layer (column 21, lines 24-25).

Regarding claim 18, Kikitsu et al. disclose all the limitations of claim 17 upon which claim 18 depends, wherein the means for changing the magnetic properties of portions of the recording layer comprises means for exposing the mask and the exposed portions of the recording layer to a plasma (column 21, lines 40-43), wherein the magnetic properties of at least one layer in the exposed portions of the recording layer are changed.

Regarding claim 19, Kikitsu et al. disclose all the limitations of claim 17 upon which claim 19 depends, wherein the means for etching away a portion of the recording layer in the

exposed portions of the recording layer (column 21, lines 27-28), wherein grooves are formed in at least one layer within the exposed portions of the recording layer and (Fig. 7, element 35 (magnetic portion of the medium)).

Regarding claim 20, Kikitsu et al. disclose all the limitations of claim 19 upon which claim 20 depends, wherein the means for changing the magnetic properties of portions of the recording layer comprises means for exposing the mask and the exposed portions of the recording layer to a plasma (column 21, lines 40-41), wherein the magnetic properties of at least one layer in the exposed portions of the recording layer are changed.

Regarding claim 26, Kikitsu et al. disclose a magnetic recording media for a storage device, comprising: non-recordable regions in the magnetic recording media (column 21, lines 29-30); and recordable regions in the magnetic recording media (column 21, lines 27-28), wherein the coercivity of the non-recordable regions differ from the coercivity of the recordable regions (a magnetic material (recordable regions) have a high coercivity and a non-magnetic material (non-recordable regions) have a low coercivity.

Regarding claim 27, Kikitsu et al. disclose a storage system, comprising: a storage disk having recordable and non-recordable regions, wherein the recordable regions and non-recordable regions are defined by different magnetic properties in a recording layer on the storage disk (column 21, lines 38-40, the recordable and non-recordable regions are formed by the magnetic and non-magnetic regions, these regions have different magnetic properties); and means for reading from, and writing to, the recordable regions on the storage disk (column 4, lines 38-42).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 4-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikitsu et al. in view of Nakatani (USPN 6,391,216).

Regarding claims 4 and 5, Kikitsu et al. disclose all the limitations of claim 3 upon which claim 4 depends. Kikitsu et al. fail to explicitly disclose defining a pattern in the mask using photolithography and exposing portions of the recording layer. However these limitations are well known in the art as evidenced by Nakatani which teach a method for defining a pattern in a magnetic material using photolithography (column 1, lines 27-28, the magnetic material being treated as the recording layer) and exposing portions of the recording layer (column 1, lines 28-29). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the device of Kikitsu et al. because Nakatani teaches defining a pattern in the mask using photolithography and exposing portions of the recording layer to produce fine pattern in the recording layer.

Regarding claim 6, Kikitsu et al. in view of Nakatani disclose all the limitations of claim 5 upon which claim 6 depends. Kikitsu et al. further disclose the step of changing the magnetic properties of portions of the recording layer comprises the step of exposing the mask and the exposed portions of the recording layer to a plasma (column 21, lines 40-41), wherein the

magnetic properties of at least one layer in the exposed portions of the recording layer are changed.

Regarding claim 7, Kikitsu et al. in view of Nakatani disclose all the limitations of claim 5 upon which claim 7 depends. Kikitsu et al. further disclose the step of etching away a portion of the recording layer in the exposed portions of the recording layer (column 21, lines 27-28), wherein grooves are formed in at least one layer within the exposed portions of the recording layer (Fig. 7, element 35 (magnetic portion of the medium)).

Regarding claim 8, Kikitsu et al. in view of Nakatani disclose all the limitations of claim 7 upon which claim 8 depends. Kikitsu et al. further disclose the step of changing the magnetic properties of portions of the recording layer comprises the step of exposing the mask and the exposed portions of the recording layer to a plasma (column 21, lines 40-41), wherein the magnetic properties of at least one layer in the exposed portions of the recording layer are changed.

Regarding claims 9 and 10, Kikitsu et al. disclose all the limitations of claim 3 upon which claim 9 depends. Kikitsu et al. fail to explicitly disclose the step of defining a pattern in the mask comprises the step of defining a pattern in the mask using imprint lithography and removing a portion of the mask after performing imprint lithography. However these limitations are well known in the art as evidenced by Nakatani which teaches defining a pattern in a mask using imprint lithography (column 8, lines 22-23) and removing a portion of the mask after performing imprint lithography (column 8, lines 40-43). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the device of Kikitsu et al. because Nakatani teaches the step of defining a pattern in the mask may comprise

the step of defining a pattern in the mask using imprint lithography to produce fine patterns in the magnetic layer.

Regarding claim 11, Kikitsu et al. in view of Nakatani disclose all the limitations of claim 10 upon which claim 11 depends. Kikitsu et al. further disclose the step of changing the magnetic properties of portions of the recording layer comprises the step of exposing the mask and the exposed portions of the recording layer to a plasma (column 21, lines 40-41), wherein the magnetic properties of at least one layer in the exposed portions of the recording layer are changed.

Regarding claim 12, Kikitsu et al. in view of Nakatani disclose all the limitations of claim 10 upon which claim 12 depends. Kikitsu et al. further disclose the step of etching away a portion of the recording layer in the exposed portions of the recording layer (column 21, lines 27-28), wherein grooves are formed in at least one layer within the exposed portions of the recording layer and (Fig. 7, element 35 (magnetic portion of the medium)).

Regarding claim 13, Kikitsu et al. in view of Nakatani disclose all the limitations of claim 12 upon which claim 13 depends. Kikitsu et al. further disclose the step of changing the magnetic properties of portions of the recording layer comprises the step of exposing the mask and the exposed portions of the recording layer to a plasma (column 21, lines 40-41), wherein the magnetic properties of at least one layer in the exposed portions of the recording layer are changed.

5. Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikitsu et al. in view of Kondo (USPN 6,254,966).

Regarding claims 21 and 22, Kikitsu et al. disclose all the limitations of claim 16 upon which claim 21 depends. Kikitsu et al. fail to explicitly disclose the means for defining a pattern in the mask compresses portions of the mask and removing the compressed portions of the mask. However theses limitations are well known in the art as evidenced by Kondo which discloses that the mask may be compressed against the recording layer (column 4, lines 65-67, the supporter is the recording layer, by using a stamper to form the pattern on the recording layer the stamper needs to be compressed against the supporter) and removing part of the mask from the recording layer (column 5, lines 7-8). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the device of Kikitsu et al. because Kondo teaches the mask may be compressed against the recording layer before the etching process to fix the mask on the recording layer and removing part of the mask to form the pattern on the recording layer.

Regarding claim 23, Kikitsu et al. in view of Kondo disclose all the limitations of claim 22 upon which claim 23 depends. Kikitsu et al. further disclose changing the magnetic properties of portions of the recording layer comprises the means for exposing the mask and the exposed portions of the recording layer to a plasma (column 21, lines 40-41), wherein the magnetic properties of at least one layer in the exposed portions of the recording layer are changed.

Regarding claim 24, Kikitsu et al. in view of Kondo disclose all the limitations of claim 22 upon which claim 24depends. Kikitsu et al. further disclose etching away a portion of the recording layer in the exposed portions of the recording layer (column 21, lines 27-28), to form

grooves in at least one layer within the exposed portions of the recording layer (Fig. 7, element 35 (magnetic portion of the medium)).

Regarding claim 25, Kikitsu et al. in view of Kondo disclose all the limitations of claim 24 upon which claim 25 depends. Kikitsu et al. further disclose changing the magnetic properties of portions of the recording layer comprises means for exposing the mask and the exposed portions of the recording layer to a plasma (column 21, lines 40-41), wherein the magnetic properties of at least one layer in the exposed portions of the recording layer are changed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rocio Colon whose telephone number is (703) 305-3947. The examiner can normally be reached on Mon-Thu 8:00a.m.-6:30p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (703)308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

rcv
November 20, 2003

ANDREW L. SNIEZEK
PRIMARY EXAMINER